EVAPORATION TECHNOLOGY IN PHARMA INDUSTRY

eco TECHNO
VACUUM EVAPORATION SYSTEMS

CUSTOMER

Years of activity	75
Industry	Pharma
Production process	Drug production
Wastewater	Rinsing water coming from reactors and mixers

CHALLENGE

Customer’s needs

Remove active ingredients and reduce the disposal costs.

Goals to achieve

- To obtain a distillate to be discharged
- To concentrate as much as possible in order to reduce disposal costs

SOLUTION SUPPLIED

DESCRIPTION OF THE SUPPLIED SOLUTION	ECO 20.000 DPM-2 is a double effect evaporator with submerged heat exchangers. It works with thermal energy, so hot water (or steam) and cold water. OPEX are really low due to the reduced energy consumption and negligible maintenance activities.
% DISTILLATE	> 97%
CONCENTRATION FACTOR	40
DISCHARGE?	Yes

ANALYSIS

INLET

DISTILLATE

CONCENTRATE

PARAMETERS	UNIT	WASTEWATER INLET	DISTILLATE	CONCENTRATE
pH		5	5,6	/
TS 105° C	%	0,5	/	> 20
Conductibility	µS/cm	1500-2800	< 150	/
COD	ppm	4000-7200	< 500	/

CONCLUSIONS

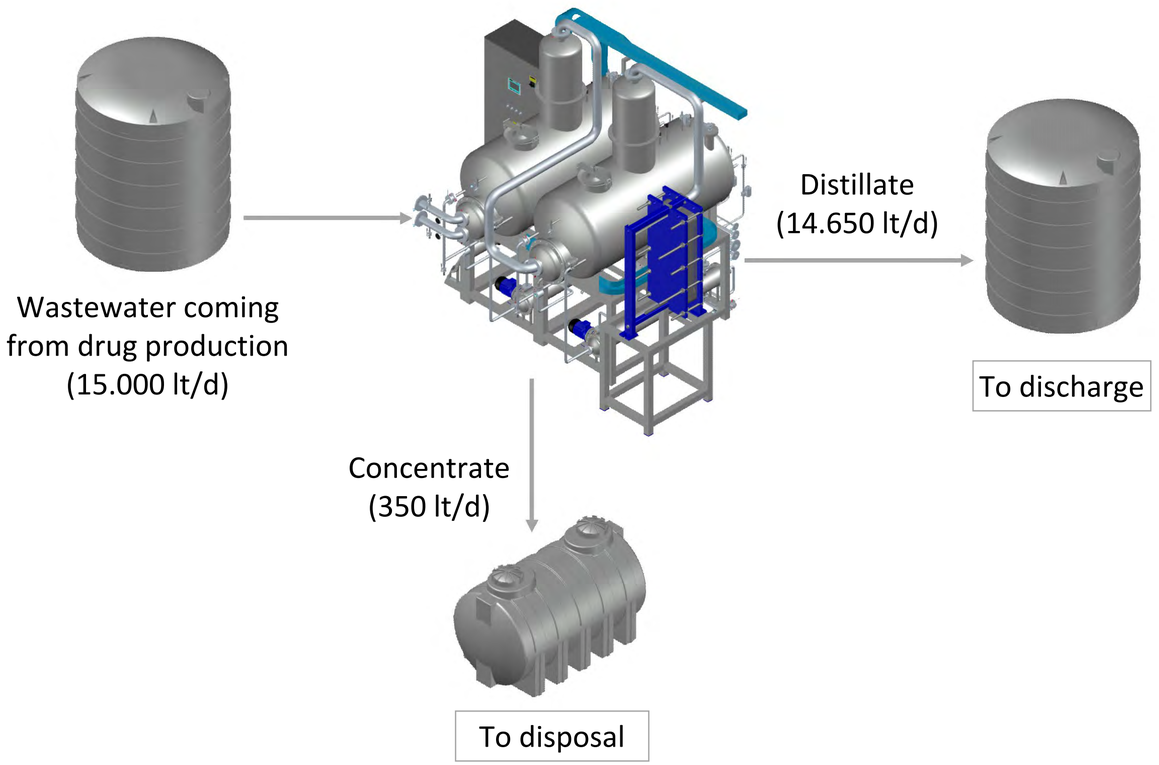
The evaporator was installed in 2010. The customer immediately had benefits in terms of disposal costs reduction: in fact, the payback period was less than 2 years and the saving higher than 200.000 €/year.

The reduction of active ingredients is higher than 99%.

The distillate obtained is compliant for the discharge.

Maintenance on this unit is negligible: the customer cleans the unit just once per year with a diluted chemical solution. This is enough to keep the evaporator efficiency constant, with particular reference to heat exchangers.

MASS BALANCE



The installed plant during regular daily functioning

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